

Non-Vacuum Methods for the Fabrication of Organic Semiconductor Devices

Abstract of Disclosure

This invention discloses methods for the fabrication of organic semiconductor material-based devices under non-vacuum environment. In one embodiment, electrodes are formed by electrodeposition from an electrolyte containing ions or complexes of the electrode materials to be deposited. In another embodiment, electrodes are formed by solution processing from a solution (or ink) containing nano-particle of the electrode materials or the precursor of electrode materials to be deposited. In addition, two different modes, either layer by layer or layer to layer, are disclosed for the fabrication of organic semiconductor material-based devices, wherein all semiconductor organic materials required by the function of the desired device are deposited under an non-vacuum environment.